

**CONSTRUCTION PERMIT
and MINOR SOURCE OPERATING PERMIT
OFFICE OF AIR QUALITY**

**Guardian Industries
860 W. US Rt. 6
Lingonier, IN 46767**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 113-9079-00024	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: May 4, 2000
First Notice-only Change 113-11517, issued on December 10, 1999	
First Significant Permit Revision: SPR 113-12574-00024	Pages Affected: 3, 4, 14, 15, 16 and 17b
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date:

TABLE OF CONTENTS

A SOURCE SUMMARY

- A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]
- A.2 Emission Units and Pollution Control Equipment Summary

B GENERAL CONSTRUCTION CONDITIONS

- B.1 Permit No Defense [IC 13]
- B.2 Definitions
- B.3 Effective Date of the Permit [IC13-15-5-3]
- B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]
- B.5 Modification to Permit [326 IAC 2]
- B.6 Minor Source Operating Permit [326 IAC 2-6.1]

C SOURCE OPERATION CONDITIONS

- C.1 PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]
- C.2 Preventive Maintenance Plan [326 IAC 1-6-3]
- C.3 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]
- C.4 Inspection and Entry [326 IAC 2-7-6(2)]
- C.5 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]
- C.6 Permit Revocation [326 IAC 2-1-9]
- C.7 Opacity [326 IAC 5-1]
- C.8 Fugitive Dust Emissions [326 IAC 6-4]

Testing Requirements

- C.9 Performance Testing [326 IAC 3-6][326 IAC 2-1.1-11]

Compliance Monitoring Requirements

- C.10 Monitoring Methods [326 IAC 3]

Record Keeping and Reporting Requirements

- C.11 Malfunctions Report [326 IAC 1-6-2]
- C.12 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]
- C.13 General Record Keeping Requirements [326 IAC 2-6.1-2]
- C.14 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]
- C.15 Annual Notification [326 IAC 2-6.1-5(a)(5)]

D.1 Emissions unit OPERATION CONDITIONS - Automotive Glass Manufacturing

Emission Limitations and Standards

- D.1.1 New Facilities, General Reduction Requirements [326 IAC 8-1-6]
- D.1.2 Emission Unit Removal
- D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

Compliance Determination Requirements

- D.1.4 Testing Requirements [326 IAC 2-1.1-11]
- D.1.5 Volatile Organic Compounds (VOC)

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

- D.1.6 Record Keeping Requirements
- D.1.7 Reporting Requirements

Annual Notification

Quarterly Report

Malfunction Report

SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary automotive window panel with PVC trim manufacturing operation.

Authorized Individual: William Troutman
Source Address: 860 W. US Rt. 6, Ligonier, IN 46767
Mailing Address: 860 W. US Rt. 6, Ligonier, IN 46767
Phone Number: 219-894-9337
SIC Code: 3231
County Location: Noble
County Status: Attainment for all criteria pollutants
Source Status: Minor Source Operating Permit
Minor Source, under PSD Rules;
Minor Source, Section 112 of the Clean Air Act

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to construct and operate the following emissions units and pollution control devices:

- (a) One (1) Laminated Windshield Silkscreen Operation, consisting of the following:
 - (1) Three (3) Laminated Windshield (LW) silkscreen operations, each with an overall maximum capacity of 150.7 parts per hour of automotive LW window panels. Each line will exhaust to a series of three stacks and are identified as J-1, J-2, J-3 and J-4, J-5, J-6 and J-7, J-8, J-9, respectively;
 - (2) Two (2) Laminated Windshield (LW) silver (Ag) silkscreen operations, each with a maximum capacity of 51.7 parts per hour of automotive LW window panels and exhausting to the interior of the building;
 - (3) One (1) Dowanol Roller Application operation, with an overall maximum capacity of 200 parts per hour of automotive LW window panels and exhausting to the interior of the building; and
 - (4) Three (3) Diatomaceous Earth Applicators for the LW lines, with an overall maximum capacity of 200 parts per hour of automotive LW window panels.
- (b) One (1) Tempered Glass Silkscreen Operation, consisting of the following:
 - (1) Two (2) Tempered Glass (TG) silkscreen lines, each with a maximum capacity of 130.2 parts per hour of automotive TG window panels Each line will exhaust to a series of three stacks and are identified as I-1, I-2, I-3 and I-4, I-5, I-6, respectively; and
 - (2) Two (2) Tempered Glass (TG) silver (Ag) silkscreen lines, each with a maximum capacity of 130.2 parts per hour of automotive TG window panels and exhausting to the interior of the building.
- (c) One (1) Tempered Glass PVC Encapsulations Operation, consisting of the following:
 - (1) Six (6) TG PVC encapsulation robot applicators, identified as Booths Nos.1-6, each with a maximum capacity of 55 parts per hour (1,945 pounds per hour) of automotive window panels with PVC trim (overall maximum 330 parts per hour), Each applicator is connected to a manifold which is exhausted through stack P-1; and

- (2) Six (6) TG injection molding presses, identified as Presses Nos.1-6, each with a maximum capacity of 55 parts per hour (1,945 pounds per hour) of automotive window panels with PVC trim (overall maximum 330 parts per hour). Each press is connected to a manifold which is exhausted through stack P1.

SECTION B GENERAL CONSTRUCTION CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

B.1 Permit No Defense [IC 13]

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.5 Modification to Permit [326 IAC 2]

Notwithstanding the Section B condition entitled "Minor Source Operating Permit", all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

B.6 Minor Source Operating Permit [326 IAC 2-6.1]

This document shall also become a minor source operating permit pursuant to 326 IAC 2-6.1 when, prior to start of operation, the following requirements are met:

- (a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section.
 - (1) If the Affidavit of Construction verifies that the facilities covered in this Construction Permit were constructed as proposed in the application, then the facilities may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
 - (2) If the Affidavit of Construction does not verify that the facilities covered in this Construction Permit were constructed as proposed in the application, then the Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section prior to beginning operation of the facilities.
- (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
- (c) Upon receipt of the Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section, the Permittee shall attach it to this document.

- (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1.1-7(Fees).
- (e) Pursuant to 326 IAC 2-6.1-7, the Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date established in the validation letter. If IDEM, OAQ, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied. The operation permit issued shall contain as a minimum the conditions in Section C and Section D of this permit.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

C.1 PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]

- (a) The total source potential to emit of all criteria pollutants is less than 250 tons per year. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.
- (b) Any change or modification which may increase potential to emit to 250 tons per year from this source, shall cause this source to be considered a major source under PSD, 326 IAC 2-2 and 40 CFR 52.21, and shall require approval from IDEM, OAQ prior to making the change.
- (c) Any change or modification which may increase potential to emit to 10 tons per year of any single hazardous air pollutant, twenty-five tons per year of any combination of hazardous air pollutants, or 100 tons per year of any other regulated pollutant from this source, shall cause this source to be considered a major source under Part 70 Permit Program, 326 IAC 2-7, and shall require approval from IDEM, OAQ prior to making the change.

C.2 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) after issuance of this permit, including the following information on each emissions unit:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) PMP's shall be submitted to IDEM, OAQ, upon request and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.3 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

C.4 Inspection and Entry [326 IAC 2-7-6(2)]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

C.5 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)] :

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAQ, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.6 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.

- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.7 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

C.8 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

Testing Requirements

C.9 Performance Testing [326 IAC 3-6][326 IAC 2-1.1-11]

- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

- (b) All test reports must be received by IDEM, OAQ within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Compliance Monitoring Requirements

C.10 Monitoring Methods [326 IAC 3]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

Record Keeping and Reporting Requirements

C.11 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.12 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) With the exception of performance tests conducted in accordance with Section C- Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.
- (b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.

- (c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.
- (d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.
- (e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.
- (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.13 General Record Keeping Requirements [326 IAC 2-6.1-2]

- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAQ, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Records of required monitoring information shall include, where applicable:
 - (1) The date, place, and time of sampling or measurements;
 - (2) The dates analyses were performed;
 - (3) The company or entity performing the analyses;
 - (4) The analytic techniques or methods used;
 - (5) The results of such analyses; and
 - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
 - (1) Copies of all reports required by this permit;
 - (2) All original strip chart recordings for continuous monitoring instrumentation;
 - (3) All calibration and maintenance records;

- (4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.
- (d) All record keeping requirements not already legally required shall be implemented when operation begins.

C.14 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Semi-Annual Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported. The Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (d) Unless otherwise specified in this permit, any semi-annual report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:
 - (1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or
 - (2) A malfunction as described in 326 IAC 1-6-2; or
 - (3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.

- (4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.

- (f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.
- (g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

C.15 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) Annual notification shall be submitted to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.
- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:

Compliance Data Section, Office of Air Quality
Indiana Department of Environmental Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015
- (d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

SECTION D.1

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description

- (a) One (1) Laminated Windshield Silkscreen Operation, consisting of the following:
 - (1) Three (3) Laminated Windshield (LW) silkscreen operations, each with an overall maximum capacity of 150.7 parts per hour of automotive LW window panels. Each line will exhaust to a series of three stacks and are identified as J-1, J-2, J-3 and J-4, J-5, J-6 and J-7, J-8, J-9, respectively;
 - (2) Two (2) Laminated Windshield (LW) silver (Ag) silkscreen operations, each with a maximum capacity of 51.7 parts per hour of automotive LW window panels and exhausting to the interior of the building;
 - (3) One (1) Dowanol Roller Application operation, with an overall maximum capacity of 200 parts per hour of automotive LW window panels and exhausting to the interior of the building; and
 - (4) Three (3) Diatomaceous Earth Applicators for the LW lines, with an overall maximum capacity of 200 parts per hour of automotive LW window panels.
- (b) One (1) Tempered Glass Silkscreen Operation, consisting of the following:
 - (1) Two (2) Tempered Glass (TG) silkscreen lines, each with a maximum capacity of 130.2 parts per hour of automotive TG window panels. Each line will exhaust to a series of three stacks and are identified as I-1, I-2, I-3 and I-4, I-5, I-6, respectively; and
 - (2) Two (2) Tempered Glass (TG) silver (Ag) silkscreen lines, each with a maximum capacity of 130.2 parts per hour of automotive TG window panels and exhausting to the interior of the building.
- (c) One (1) Tempered Glass PVC Encapsulations Operation, consisting of the following:
 - (1) Six (6) TG PVC encapsulation robot applicators, identified as Booths Nos.1-6, each with a maximum capacity of 55 parts per hour (1,945 pounds per hour) of automotive window panels with PVC trim (overall maximum 330 parts per hour). Each applicator is connected to a manifold which is exhausted through stack P-1; and
 - (2) Six (6) TG injection molding presses, identified as Presses Nos.1-6, each with a maximum capacity of 55 parts per hour (1,945 pounds per hour) of automotive window panels with PVC trim (overall maximum 330 parts per hour). Each press is connected to a manifold which is exhausted through stack P1.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6, the source shall meet the following:

- (a) Pursuant to CP113-1913-00024, the Best Available Control Technology (BACT) for the silk-screen operations not in production has been determined to be the use of clean-up solvent containing less than 1 percent VOC. This clean-up shall be conducted inside a self-contained, totally enclosed silk-screen washing unit. Spot cleaning of facilities in production requiring a quick dry may utilize non-photochemically reactive hydrocarbon clean-up solvents.
- (b) Pursuant to CP113-1913-00024, the Best Available Control Technology (BACT) for the lamination process shall be a hand-wipe application.

- (c) The Best Available Control Technology (BACT) for the three (3) Diatomaceous Earth Applicators for the LW lines have been determined to be no control device with the following work practice standards:
- (1) The diatomaceous earth, isopropyl alcohol and water mixtures will be prepared in batches in a closed mixing chamber. One batch per shift will be used at each laminated windshield line;
 - (2) Application will be done with spray guns in a closed chamber and will be electronically controlled to spray only when glass is in position.
 - (3) Two manifold spray nozzles will be used in close proximity to the glass to minimize over spray;
 - (4) Spectrophotometer readings will be taken and recorded every ½ hours to control and minimize the application;
 - (5) Implementation of electrically charged bands to impart a negative charge to one piece of glass and positive charge to the other. When put together these charges will reduce slippage between parts which reduces the amount of powder and associated alcohol required;
 - (6) Glass parts will be heated to 196 degrees F or higher. This will allow the powder (diatomaceous earth) to dry quicker and will minimize the amount of alcohol needed;
 - (7) Weekly preventive maintenance will be done on the system. Spray nozzles will be changed at a maximum of every two weeks and guns will be changed out at least monthly; and
 - (8) Use of isopropyl alcohol, as well as VOC delivered to the three (3) Diatomaceous Earth Applicators for the LW lines shall be limited such that the potential to emit (PTE) VOC from the three (3) Diatomaceous Earth Applicators for the LW lines shall be limited to 48.14 tons per twelve (12) consecutive months.

D.1.2 Emission Unit Removal

The following equipment at the source will be decommissioned and removed once the three (3) Diatomaceous Earth Applicators for the LW line listed above are modified:

One (1) Tempered Glass Polyurethane Reaction Injection Molding (RIM) Operation, consisting of the following:

- (a) One (1) clear primer application operation, with an overall maximum capacity of 150 parts per hour of automotive TG window panels;
- (b) One (1) hand application of black primer operation, with an overall maximum capacity of 90 parts per hour of automotive TG window panels; and
- (c) Three (3) polyurethane rim encapsulation mold application operations, each with a maximum capacity of 30 parts per hour of automotive TG window panels (overall maximum 90 parts per hour), exhausting to one of three stacks identified as 1-E, 2-E and 3-E.

D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.

Compliance Determination Requirements

D.1.4 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the VOC limit specified in Condition D.1.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.5 Volatile Organic Compounds (VOC)

Compliance with the VOC content and usage limitations contained in Condition D.1.1 (1) through (8) shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

There are no Compliance Monitoring Requirements that apply to these emission units.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.6 Record Keeping Requirements

- (a) To document compliance with Condition D.1.1 (1) through (8), the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.1.1.
 - (1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
 - (2) A log of the dates of use;
 - (3) The cleanup solvent usage for each month;
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.7 Reporting Requirements

A summary of the information to document compliance with Condition D.1.1 (1) through (8) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, upon request of IDEM, OAQ.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Company Name:	Guardian Industries
Address:	860 W. US Rt. 6, Lingonier, IN 46767
City:	Lingonier
Phone #:	219-894-9337
MSOP #:	MSOP 113-9079-00024

I hereby certify that **Guardian Industries** is

☐ still in operation.

☐ no longer in operation.

I hereby certify that **Guardian Industries** is

☐ in compliance with the requirements of MSOP 113-9079-00024.

☐ not in compliance with the requirements of MSOP 113-9079-00024.

Authorized Individual (typed):
Title:
Signature:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

MSOP Quarterly Report

Source Name: Guardian Industries
Source Address: 860 W. US Rt. 6, Ligonier, IN 46767
Mailing Address: P.O. Box 5109, Evansville, Indiana 47716-5109
MSOP Permit No.: SPR 113-12574-00024
Facility: Three (3) Diatomaceous Earth Applicators for the LW line
Parameter: VOC Usage
Limit: Use of isopropyl alcohol, as well as VOC delivered to the three (3) Diatomaceous Earth Applicators for the LW lines shall be limited such that the potential to emit (PTE) VOC from the three (3) Diatomaceous Earth Applicators for the LW lines shall be limited to 48.14 tons per twelve (12) consecutive months.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	VOC Usage This Month	VOC Usage Previous 11 Months	VOC Usage 12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

MALFUNCTION REPORT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY FAX NUMBER - 317 233-5967

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?_____, 25 TONS/YEAR SULFUR DIOXIDE ?_____, 25 TONS/YEAR NITROGEN OXIDES?_____, 25 TONS/YEAR VOC ?_____, 25 TONS/YEAR HYDROGEN SULFIDE ?_____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?_____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?_____, 25 TONS/YEAR FLUORIDES ?_____, 100TONS/YEAR CARBON MONOXIDE ?_____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?_____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?_____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?_____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?_____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: Guardian Industries PHONE NO. (219) 894-9337
LOCATION: (CITY AND COUNTY) Lingonier, IN
PERMIT NO. 113-9079-00024 AFS PLANT ID: 113-00024 AFS POINT ID: _____ INSP: Doyle Houser
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____
DATE/TIME MALFUNCTION STARTED: ____/____/20____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/20____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____
INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

**Please note - This form should only be used to report malfunctions
applicable to Rule 326 IAC 1-6 and to qualify for
the exemption under 326 IAC 1-6-4.**

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

Indiana Department of Environmental Management Office of Air Quality

Addendum to the Technical Support Document for a Significant Permit Revision to a Minor Source Operating Permit

Source Name:	Guardian Industries
Source Location:	860 W. US Rt. 6, Lingonier, IN 46767
County:	Noble
SIC Code:	3231
Operation Permit No.:	MSOP 113-9079-00024
Operation Permit Issuance Date:	June 04, 2000
Permit Revision No.:	SPR 113-12574-00024
Permit Reviewer:	Phillip Ritz/EVP

On December 22, 2000, the Office of Air Quality (OAQ) had a notice published in the News-Sun, Kendallville, Indiana, stating that Guardian Industries had applied for a Significant Permit Revision to a Minor Source Operating Permit to construct and operate a modification to an automotive window panel with PVC trim manufacturing operation. The notice also stated that OAQ proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On January 23, 2001, Guardian Industries submitted comments on the proposed Significant Permit Revision to a Minor Source Operating Permit. The summary of the comments and corresponding responses is as follows:

Comment

Guardian has and operates six TG PVC encapsulation robotic applicators and six TG injection molding presses as identified in Section A.2 (c)(1) and (2) and again in other parts of the draft copy. The Numbers 4 and 5 Adhesive stations are the same as and are included in the six TG PVC encapsulation robotic applicators and the Numbers 4 and 5 Injection Molding Presses are the same as and are included in the six TG Injection molding presses.

For clarification it is recommended that Section A.2(d) through (g) and Section D.1(d) through (g) be deleted. It is also recommended that Section A.2(c)(1) and (2) and Section D.1(c)(1) and (2) be changed to include the weight capacity of 1,945 pounds per hour of automotive panels for each press. Guardian installed the six PVC presses and associated equipment under several different modifications. Presses 4 and 5 were installed under the notice only change to MSOP 113-9079-00024. It is assumed that the description and reference to presses 4 and 5 may have inadvertently been carried over from that application.

Response

Section A.2(d) through (g) and Section D.1(d) through (g) have been removed from the permit. Section A.2(c)(1) and (2) and Section D.1(c)(1) and (2) has been changed to include the weight capacity of the Tempered Glass PVC Encapsulations Operations. No emission limitations or other Section D conditions will be affected by this change. The changes to the permit are as follows (additions indicated in **boldface**, deletions indicated by ~~strikeout~~ for emphasis):

- (c) One (1) Tempered Glass PVC Encapsulations Operation, consisting of the following:
 - (1) Six (6) TG PVC encapsulation robot applicators, identified as Booths Nos.1-6, each with a maximum capacity of 55 parts per hour (**1,945 pounds per hour**) of automotive window panels with PVC trim (overall maximum 330 parts per hour), Each applicator is connected to a manifold which is exhausted through stack P-1; and
 - (2) Six (6) TG injection molding presses, identified as Presses Nos.1-6, each with a maximum capacity of 55 parts per hour (**1,945 pounds per hour**) of automotive window panels with PVC trim (overall maximum 330 parts per hour). Each press is connected to a manifold which is exhausted through stack P1.
- ~~(d) One (1) adhesive application operation, identified as Adhesive Station No.4, with a maximum capacity of 1,945 pounds per hour of automotive window panels with PVC trim, and exhausting to stack P1.~~
- ~~(e) One (1) Injection Molding Press, identified as Injection Molding Press No.4, with a maximum capacity of 1,945 pounds per hour of automotive window panels with PVC trim, and exhausting fugitively within the building.~~
- ~~(f) One (1) adhesive application operation, identified as Adhesive Station No.5, with a maximum capacity of 1,945 pounds per hour of automotive window panels with PVC trim, and exhausting to stack P1.~~
- ~~(g) One (1) Injection Molding Press, identified as Injection Molding Press No.5, with a maximum capacity of 1,945 pounds per hour of automotive window panels with PVC trim, and exhausting fugitively within the building.~~

Upon further review from the OAQ, the OAQ has revised the significant permit revision documents to replace the old name of Office of Air Management (OAM) with the new name of the Office of Air Quality (OAQ).

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for a Significant Permit Revision to a Minor Source Operating Permit

Source Background and Description

Source Name:	Guardian Industries
Source Location:	860 W. US Rt. 6, Lingonier, IN 46767
County:	Noble
SIC Code:	3231
Operation Permit No.:	MSOP 113-9079-00024
Operation Permit Issuance Date:	June 04, 2000
Permit Revision No.:	SPR 113-12574-00024
Permit Reviewer:	Phillip Ritz/EVP

The Office of Air Management (OAM) has reviewed a revision application from Guardian Industries relating to the operation of a modification to an automotive window panel with PVC trim manufacturing operation.

History

On August 2, 2000, Guardian Industries submitted an application to the OAM requesting to modify the existing diatomaceous earth application operation and other operations at their existing plant. Guardian Industries was issued a Minor Source Operating Permit on June 04, 2000.

Revised Emission Units and Pollution Control Equipment Receiving Prior Approval

The application includes the modification of the existing emission units and pollution control devices:

- (a) The application includes information relating to the prior approval for the construction and operation of the following equipment pursuant to 326 IAC 2-6.1-6(i). The emission calculations for the Diatomaceous Earth Applicators for the LW line have been changed to reflect the use of isopropyl alcohol:
 - (1) One (1) Laminated Windshield Silkscreen Operation, consisting of the following:
 - (A) Three (3) Diatomaceous Earth Applicators for the LW line, with an overall maximum capacity of 200 parts per hour of automotive LW window panels.

- (b) The amount of coatings used in gallons per hour in the emission units listed below has been reduced. There is no change in applicable requirements or status of the source. The emission calculations for the lines have been changed to reflect the reduction:
- (1) One (1) Laminated Windshield Silkscreen Operation, consisting of the following:
 - (A) Two (2) Laminated Windshield (LW) silver (Ag) silkscreen operations, each with a maximum capacity of 51.7 parts per hour of automotive LW window panels and exhausting to the interior of the building;
 - (B) One (1) Dowanol Roller Application operation, with an overall maximum capacity of 200 parts per hour of automotive LW window panels and exhausting to the interior of the building;
 - (2) One (1) Tempered Glass Silkscreen Operation, consisting of the following:
 - (A) Two (2) Tempered Glass (TG) silver (Ag) silkscreen lines, each with a maximum capacity of 130.2 parts per hour of automotive TG window panels and exhausting to the interior of the building;
 - (3) One (1) Tempered Glass PVC Encapsulations Operation, consisting of the following:
 - (A) Six (6) TG PVC encapsulation robot applicators, identified as Booths Nos.1-6, each with a maximum capacity of 55 parts per hour of automotive window panels with PVC trim (overall maximum 330 parts per hour), Each applicator is connected to a manifold which is exhausted through stack P-1;
 - (B) Six (6) TG injection molding presses, identified as Presses Nos.1-6, each with a maximum capacity of 55 parts per hour of automotive window panels with PVC trim (overall maximum 330 parts per hour). Each press is connected to a manifold which is exhausted through stack P1.
- (c) The amount of coatings used in gallons per hour in the emission units listed below has been increased. There is no change in applicable requirements or status of the source. The emission calculations for the lines have been changed to reflect the increase:
- (1) One (1) Laminated Windshield Silkscreen Operation, consisting of the following:
 - (A) Three (3) Laminated Windshield (LW) silkscreen operations, each with an overall maximum capacity of 150.7 parts per hour of automotive LW window panels. Each line will exhaust to a series of three stacks and are identified as J-1, J-2, J-3 and J-4, J-5, J-6 and J-7, J-8, J-9, respectively;
 - (2) One (1) Tempered Glass Silkscreen Operation, consisting of the following:
 - (A) Two (2) Tempered Glass (TG) silkscreen lines, each with a maximum capacity of 130.2 parts per hour of automotive TG window panels Each line will exhaust to a series of three stacks and are identified as I-1, I-2, I-3 and I-4, I-5, I-6, respectively.

(d) The following equipment at the source will be decommissioned and removed once the three (3) Diatomaceous Earth Applicators for the LW line are modified. There is no change in applicable requirements or status of the source. :

- (1) One (1) Tempered Glass Polyurethane Reaction Injection Molding (RIM) Operation, consisting of the following:
 - (A) One (1) clear primer application operation, with an overall maximum capacity of 150 parts per hour of automotive TG window panels;
 - (B) One (1) hand application of black primer operation, with an overall maximum capacity of 90 parts per hour of automotive TG window panels; and
 - (C) Three (3) polyurethane rim encapsulation mold application operations, each with a maximum capacity of 30 parts per hour of automotive TG window panels (overall maximum 90 parts per hour), exhausting to stack 5-E.

See Appendix A of this document for detailed emissions calculations showing the change in coating usage for the significant units in this permit revision (Appendix A, page 4 of 4.) No de-bottlenecking of the existing emission units will occur as a result of this modification.

Existing Approvals

The source was issued a Minor Source Operating Permit on June 04, 2000. The source has since received the following:

Notice-only change No.: 113-11517-00024, issued on December 10, 1999.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the Significant Permit Revision be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on August 2, 2000.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (Appendix A, pages 1 through 4.)

Potential To Emit Before Controls (Modification)

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA.”

Pollutant	Potential To Emit (tons/year)
PM	0.00
PM-10	0.00
SO ₂	0.00
VOC	48.57
CO	0.00
NO _x	0.00

Justification for Modification

The MSOP is being modified through a Significant Permit Revision. This modification is being performed pursuant to 326 IAC 2-6.1-6(i), as it is a modification with a potential to emit greater than or equal to 25 tons per year of volatile organic compounds and is subject to 326 IAC 8-1-6.

County Attainment Status

The source is located in Noble County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Noble County has been designated as attainment or unclassifiable for ozone.

Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Actual Emissions (tons/year)
PM	0.00
PM-10	0.00
SO ₂	0.00
VOC	67.18
CO	0.00
NO _x	0.00

Glycol Ethers	0.17
Methanol	2.05
Methyl Methacrylate	0.10
Methyl Ethyl Ketone	9.50
Methyl Isobutyl Ketone	4.38
Naphthalene	0.20
Polycyclic Organic Matter	2.00
Toluene	5.58
Xylenes	0.43
TOTAL	24.41

This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.

Potential to Emit After Controls for the Modification

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units for the modification. (**Bold** and ~~strikeout~~ text has been used to show the reduction or increase in potential to emit.)

	Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO ₂	VOC	CO	NO _x	Total HAPs/Any Single HAP
LW Silkscreen Ops	0.00	0.00	0.00	20.39 11.69	0.00	0.00	1.18 1.47/ 1.07 (POC) 1.34
TG Silkscreen Ops	0.00	0.00	0.00	7.43 8.82	0.00	0.00	1.02 2.96/ 0.92 (POC) 2.70
TG PVC Encapsulations Ops (Booths 1 - 6)	0.00	0.00	0.00	18.50 8.86	0.00	0.00	12.94 8.56/ (MIBK)5.62 (MEK)5.62
TG Polyurethane RIM Ops	0.00	0.00	0.00	20.86	0.00	0.00	9.27/ (MIBK) 3.88
Diatomaceous Earth Ops (1 - 3)	0.00	0.00	0.00	48.14	0.00	0.00	0.00
Total Emissions	0.00	0.00	0.00	67.18 77.51	0.00	0.00	24.41 12.99/ 9.50 (MEK)5.62
Part 70 Significance Levels	100.00	100.00	100.00	100.00	100.00	100.00	25.00/10.00

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Noble County, which is not one of the listed counties for this rule. Additionally, the source does not have the potential to emit CO, VOC, NO_x, PM-10, or SO₂ at greater than a 100 ton per year rate. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 2-4-1.1 (New Source Toxics Control)

Pursuant to 326 IAC 2-4-1-1 (New Source Toxics Control), any new process or production unit, which in and of itself emits or has the potential to emit (PTE) 10 tons per year of any HAP or 25 tons per year of any combination of HAPs, must be controlled using technologies consistent with Maximum Achievable Control Technology (MACT). The modified emission units do not have the potential to emit greater than 10 tons per year of any HAP or 25 tons per year of any combination of HAPs. Therefore, the revision is not subject to the requirements of 326 IAC 2-4-1.1.

326 IAC 8-1-6 (New Facilities: General Reduction Requirements)

The three (3) Diatomaceous Earth Applicators for the LW line, which have a total uncontrolled potential VOC emission of 48.14 tons per year after modification, are subject to the provisions of 326 IAC 8-1-6 (New Facilities: General Reduction Requirements) because the potential volatile organic compound (VOC) emissions are greater than twenty-five tons per year and the emission units were constructed after the January 1, 1980 applicability date and the operation of laminating automobile window panels is not subject to any other article 8 rule. The three (3) Diatomaceous Earth Applicators for the LW line were not previously subject to the provisions of 326 IAC 8-1-6, however, this modification makes the emission units subject to this rule.

The BACT analysis for VOC was performed by the applicant and was conducted in accordance with the "Top Down BACT Guidance" U.S. EPA, Office of Air Quality Planning and Standards, March 15, 1990. The BACT analysis includes control technology searches of the U.S. EPA RACT/BACT/LAER Clearinghouse database and State Regulatory Agencies. The major pollutant specified was VOCs and similar sources were identified as using "isopropyl alcohol." Table A below summarizes the search.

- (A) A search of the EPA RACT/BACT/LAER Clearinghouse (RBLC) database was conducted, however, no SCC number existing for the processes used at this source. Secondly, a search for similar processes which also involve the use of isopropyl alcohol did not provide any BACT determinations. Therefore, traditional VOC reduction equipment was used in the BACT analysis.

The options considered in the BACT analysis for the three (3) Diatomaceous Earth Applicators for the LW line operation are:

- (1) Regenerative Thermal Oxidizer (RTO)
- (2) Recuperative Thermal Oxidizer (RCO)
- (3) Carbon Adsorption System
- (4) Catalytic Incinerator

None of the identified control options were eliminated based on technical feasibility.

The tables B through D below show the results of the cost analysis.

- (B) Capital Cost

Option	Base Price	Direct Cost	Indirect Cost	Total
Regenerative Thermal Oxidizer	\$1,755,000.00	\$280,800.00	\$2,386,800.00	\$4,422,600.00
Recuperative Thermal Oxidizer	\$468,792.12	\$140,637.64	\$145,325.56	\$754,755.32
Carbon Adsorption System	\$880,000.00	\$260,600.00	\$296,800.00	\$1,437,400.00
Catalytic Incinerator	\$466,828.40	\$140,048.52	\$144,716.80	\$751,593.72

- (C) Annual Operating, Maintenance & Recovery Cost

Option	Direct Cost	Indirect Cost	Capital Recovery Cost	Total
Regenerative Thermal Oxidizer	\$202,997.39	\$112,986.47	\$388,332.36	\$704,316.22
Recuperative Thermal Oxidizer	\$595,497.58	\$50,125.41	\$123,176.07	\$768,799.06
Carbon Adsorption System	\$122,680.00	\$64,100.00	\$186,780.00	\$373,560.00
Catalytic Incinerator	\$128,346.64	\$48,654.74	\$122,674.16	\$1,846,675.28

(1) Total Cost includes Direct, Indirect, and Capital Recovery Costs.

(D)

Evaluation

Option	Potential Emissions (tons/yr)	Emissions Removed (tons/yr)*	Control Efficiency (%)	\$/ton Removed
Regenerative Thermal Oxidizer	48.14	47.64	98.96%	\$14,784.51
Recuperative Thermal Oxidizer	48.14	47.64	98.96%	\$16,454.92
Carbon Adsorption System	48.14	29.7	61.70%	\$12,660.00
Catalytic Incinerator	48.14	40.902	84.96%	\$7,326.67

Methodology:

Emissions removed = (potential emissions) * (control efficiency)

\$/ton removed = total annual cost / emissions removed

The cost breakdown is as follows:

1. Capital Cost
 - (a) Base price: purchase price, auxiliary equipment, instruments, controls, taxes and freight.
 - (b) Direct installation cost: foundations/supports, erection/handling, electrical, piping, insulation, painting, site preparation and building/facility.
 - (c) Indirect installation cost: engineering, supervision, construction/field expenses, construction fee, start up, performance test, model study and contingencies.
2. Annual Cost
 - (a) Direct operating cost: operating labor (operator, supervisor), labor and material maintenance, operating materials, utilities (electricity, gas).
 - (b) Indirect operating cost: overhead, property tax, insurance, administration and capital recovery cost (for 10 years life of the system at 10% interest rate).

Guardian Automotive Trim's economic analysis of system operation shows a cost of \$7,326.67 to \$16,454.92 per ton VOC removed. Since the evaluated BACT controls have high annual costs per ton removed, these options are economically infeasible. The cost of the catalytic incineration system, which was determined to be most economical, would have approximately a 26% impact on the pretax operating profit of the source. Therefore, BACT for the three (3) Diatomaceous Earth Applicators for the LW lines have been determined to be no control device with the following work practice standards:

- (a) The diatomaceous earth, isopropyl alcohol and water mixtures will be prepared in batches in a closed mixing chamber. One batch per shift will be used at each laminated windshield line;
- (b) Application will be done with spray guns in a closed chamber and will be electronically controlled to spray only when glass is in position.
- (c) Two manifold spray nozzles will be used in close proximity to the glass to minimize over spray;
- (d) Spectrophotometer readings will be taken and recorded every ½ hours to control and minimize the application;
- (e) Implementation of electrically charged bands to impart a negative charge to one piece of glass and positive charge to the other. When put together these charges will reduce slippage between parts which reduces the amount of powder and associated alcohol required;

- (f) Glass parts will be heated to 196 degrees F or higher. This will allow the powder (diatomaceous earth) to dry quicker and will minimize the amount of alcohol needed;
- (g) Weekly preventive maintenance will be done on the system. Spray nozzles will be changed at a maximum of every two weeks and guns will be changed out at least monthly; and
- (h) Use of isopropyl alcohol, as well as VOC delivered to the three (3) Diatomaceous Earth Applicators for the LW lines shall be limited such that the potential to emit (PTE) VOC from the three (3) Diatomaceous Earth Applicators for the LW lines shall be limited to 48.14 tons per twelve (12) consecutive months.

326 IAC 8-2-2 (Automobile and Light Duty Truck Coating Operations)

326 IAC 8-2-2 does not apply as this source does not apply prime and topcoat coatings on automobile and light duty truck bodies, hoods, fenders, cargo boxes, doors and grill opening panels.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

There are no compliance monitoring requirements applicable to this revision.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Part 70 Application Form GSD-08.

- (a) This source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments.

- (b) See attached calculations for detailed air toxic calculations. (Appendix A, page 3 of 4)

Changes Proposed

The following changes have been made to the Minor Source Operating Permit (113-9079-00024);

The emission unit description in Section A.2 and in Condition D.1 has been modified to update the descriptions. The changes are as follows:

- (a) One (1) Laminated Windshield Silkscreen Operation, consisting of the following:
 - (1) Three (3) Laminated Windshield (LW) silkscreen operations, each with an overall maximum capacity of 150.7 parts per hour of automotive LW window panels. Each line will exhaust to a series of three stacks and are identified as J-1, J-2, J-3 and J-4, J-5, J-6 and J-7, J-8, J-9, respectively;
 - (2) Two (2) Laminated Windshield (LW) silver (Ag) silkscreen operations, each with a maximum capacity of 51.7 parts per hour of automotive LW window panels and exhausting to the interior of the building;
 - (3) One (1) Dowanol Roller Application operation, with an overall maximum capacity of 200 parts per hour of automotive LW window panels and exhausting to the interior of the building; and
 - (4) Three (3) Diatomaceous Earth Applicators for the LW lines, each with an overall maximum capacity of 450.7200 parts per hour of automotive LW window panels.
- (b) One (1) Tempered Glass Silkscreen Operation, consisting of the following:
 - (1) Two (2) Tempered Glass (TG) silkscreen lines, each with a maximum capacity of 130.2 parts per hour of automotive TG window panels Each line will exhaust to a series of three stacks and are identified as I-1, I-2, I-3 and I-4, I-5, I-6, respectively; and
 - (2) Two (2) Tempered Glass (TG) silver (Ag) silkscreen lines, each with a maximum capacity of 130.2 parts per hour of automotive TG window panels and exhausting to the interior of the building.
- ~~(c) One (1) Tempered Glass Polyurethane Reaction Injection Molding (RIM) Operation, consisting of the following:
 - ~~(1) One (1) clear primer application operation, with an overall maximum capacity of 150 parts per hour of automotive TG window panels;~~
 - ~~(2) One (1) hand application of black primer operation, with an overall maximum capacity of 90 parts per hour of automotive TG window panels; and~~
 - ~~(3) Three (3) polyurethane rim encapsulation mold application operations, each with a maximum capacity of 30 parts per hour of automotive TG window panels (overall maximum 90 parts per hour), exhausting to one of three stacks identified as 1-E, 2-E and 3-E.~~~~
- ~~(d)~~(c) One (1) Tempered Glass PVC Encapsulations Operation, consisting of the following:
 - (1) Six (6) TG PVC encapsulation robot applicators, identified as Booths Nos.1-6, each with a maximum capacity of 55 parts per hour of automotive window panels with PVC trim (overall maximum 330 parts per hour), Each applicator is connected to a manifold which is exhausted through stack P-1; and
 - (2) Six (6) TG injection molding presses, identified as Presses Nos.1-6, each with a maximum capacity of 55 parts per hour of automotive window panels with PVC trim (overall maximum 330 parts per hour). Each press is connected to a manifold which is exhausted through stack P1.

- (d) One (1) adhesive application operation, identified as Adhesive Station No.4, with a maximum capacity of 1,945 pounds per hour of automotive window panels with PVC trim, and exhausting to stack P1.
- (e) One (1) Injection Molding Press, identified as Injection Molding Press No.4, with a maximum capacity of 1,945 pounds per hour of automotive window panels with PVC trim, and exhausting fugitively within the building.
- (f) One (1) adhesive application operation, identified as Adhesive Station No.5, with a maximum capacity of 1,945 pounds per hour of automotive window panels with PVC trim, and exhausting to stack P1.
- (g) One (1) Injection Molding Press, identified as Injection Molding Press No.5, with a maximum capacity of 1,945 pounds per hour of automotive window panels with PVC trim, and exhausting fugitively within the building.

Condition D.1.1 has been modified to remove the requirements for the decommissioned glass production encapsulation mold facility, and to add the BACT requirements for the three (3) Diatomaceous Earth Applicators for the LW line. The remaining Section D conditions have been renumbered. The changes to the permit are as follows:

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

~~That pursuant to 326 IAC 8-1-6, the source shall meet the following:~~

- ~~(a) Pursuant to CP113-1913-00024, the Best Available Control Technology (BACT) for the glass production encapsulation mold facility has been determined to be the use of mineral spray mold release solvent with reaction injection molding (RIM) encapsulation and air atomization spray process equipment for optimum transfer efficiency.~~
- ~~(b)~~ **(a)** Pursuant to CP113-1913-00024, the Best Available Control Technology (BACT) for the silk-screen operations not in production has been determined to be the use of clean-up solvent containing less than 1 percent VOC. This clean-up shall be conducted inside a self-contained, totally enclosed silk-screen washing unit. Spot cleaning of facilities in production requiring a quick dry may utilize non-photochemically reactive hydrocarbon clean-up solvents.
- ~~(c)~~ **(b)** Pursuant to CP113-1913-00024, the Best Available Control Technology (BACT) for the lamination process shall be a hand-wipe application.
- (c) The Best Available Control Technology (BACT) for the three (3) Diatomaceous Earth Applicators for the LW lines have been determined to be no control device are the following work practice standards:**
 - (1) The diatomaceous earth, isopropyl alcohol and water mixtures will be prepared in batches in a closed mixing chamber. One batch per shift will be used at each laminated windshield line;**
 - (2) Application will be done with spray guns in a closed chamber and will be electronically controlled to spray only when glass is in position.**
 - (3) Two manifold spray nozzles will be used in close proximity to the glass to minimize over spray;**
 - (4) Spectrophotometer readings will be taken and recorded every ½ hours to control and minimize the application;**
 - (5) Implementation of electrically charged bands to impart a negative charge to one piece of glass and positive charge to the other. When put together these charges will reduce slippage between parts which reduces the amount of powder and associated alcohol required;**

- (6) Glass parts will be heated to 196 degrees F or higher. This will allow the powder (diatomaceous earth) to dry quicker and will minimize the amount of alcohol needed;
- (7) Weekly preventive maintenance will be done on the system. Spray nozzles will be changed at a maximum of every two weeks and guns will be changed out at least monthly; and
- (8) Use of isopropyl alcohol, as well as VOC delivered to the three (3) Diatomaceous Earth Applicators for the LW lines shall be limited such that the potential to emit (PTE) VOC from the three (3) Diatomaceous Earth Applicators for the LW lines shall be limited to 48.14 tons per twelve (12) consecutive months.

D.1.2 Emission Unit Removal

The following equipment at the source will be decommissioned and removed once the three (3) Diatomaceous Earth Applicators for the LW line listed above are modified:

One (1) Tempered Glass Polyurethane Reaction Injection Molding (RIM) Operation, consisting of the following:

- (a) One (1) clear primer application operation, with an overall maximum capacity of 150 parts per hour of automotive TG window panels;
- (b) One (1) hand application of black primer operation, with an overall maximum capacity of 90 parts per hour of automotive TG window panels; and
- (c) Three (3) polyurethane rim encapsulation mold application operations, each with a maximum capacity of 30 parts per hour of automotive TG window panels (overall maximum 90 parts per hour), exhausting to one of three stacks identified as 1-E, 2-E and 3-E.

Conclusion

The operation of this modification to an automotive window panel with PVC trim manufacturing operation shall be subject to the conditions of the attached proposed Significant Permit Revision No. **SPR 113-12574-00024**.

Appendix A: Emission Calculations

Company Name: Guardian Industries Corporation
Address City IN Zip: 860 West U.S. 6, Lingonier, IN 46767
CP: 113-12574-00024
Reviewer: PR/EVP
Date: August 2, 2000

Uncontrolled Potential Emissions (tons/year)					
Emissions Generating Activity					
Pollutant	LW Silkscreen Ops	TG Silkscreen Ops	TG PVC Encapsulations Ops (Booths 1-6)	Diatomaceous Earth Ops (1-3)	TOTAL
PM	0.00	0.00	0.00	0.00	0.00
PM10	0.00	0.00	0.00	0.00	0.00
SO2	0.00	0.00	0.00	0.00	0.00
NOx	0.00	0.00	0.00	0.00	0.00
VOC	11.69	8.82	8.86	48.14	77.51
CO	0.00	0.00	0.00	0.00	0.00
total HAPs	1.47	2.96	8.56	0.00	12.99
worst case single HAP	(POC) 1.34	(POC) 2.70	(MEK) 5.62	0.00	(MEK) 5.62
Total emissions based on rated capacity at 8,760 hours/year.					
Controlled Potential Emissions (tons/year)					
Emissions Generating Activity					
Pollutant	LW Silkscreen Ops	TG Silkscreen Ops	TG PVC Encapsulations Ops (Booths 1-6)	Diatomaceous Earth Ops (1-3)	TOTAL
PM	0.00	0.00	0.00	0.00	0.00
PM10	0.00	0.00	0.00	0.00	0.00
SO2	0.00	0.00	0.00	0.00	0.00
NOx	0.00	0.00	0.00	0.00	0.00
VOC	11.69	8.82	8.86	48.14	77.51
CO	0.00	0.00	0.00	0.00	0.00
total HAPs	1.47	2.96	8.56	0.00	12.99
worst case single HAP	(POC) 1.34	(POC) 2.70	(MEK) 5.62	0.00	(MEK) 5.62
Total emissions based on rated capacity at 8,760 hours/year, after control.					

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Page 2 of 4 TSD App A

Company Name: Guardian Industries Corporation
Address City IN Zip: 860 West U.S. 6, Lingonier, IN 46767
CP: 113-12574-00024
Reviewer: PR/EVP
Date: August 2, 2000

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
LW Black Silkscreen Ops																
24-8169 Black	24.31	12.50%	0.0%	12.5%	0.00%	53.67%	0.00230	200.000	3.04	3.04	1.40	33.54	6.12	0.00	5.66	100%
Texo LP 1690	7.42	100.00%	0.0%	100.0%	0.00%	0.00%	0.00018	200.000	7.42	7.42	0.27	6.41	1.17	0.00	ERR	100%
LW Silver Silkscreen Ops																
Silver Coating	36.70	9.00%	0.0%	9.0%	0.00%	0.00%	0.00059	51.700	3.30	3.30	0.10	2.43	0.44	0.00	ERR	100%
Silver Coating	36.70	9.00%	0.0%	9.0%	0.00%	0.00%	0.00059	51.700	3.30	3.30	0.10	2.43	0.44	0.00	ERR	100%
Texo LP 1690	7.42	100.00%	0.0%	100.0%	0.00%	0.00%	0.00018	51.700	7.42	7.42	0.07	1.66	0.30	0.00	ERR	100%
LW Dowanol Application																
Downaol (R) TPM	8.05	99.00%	0.0%	99.0%	0.00%	0.00%	0.00046	200.000	7.97	7.97	0.73	17.60	3.21	0.00	ERR	100%
<i>Subtotal</i>											2.67	64.07	11.69	0.00		
TG Black Silkscreen Ops																
24-8169 Black	24.31	12.50%	0.0%	12.5%	0.00%	53.67%	0.00120	260.400	3.04	3.04	0.95	22.79	4.16	0.00	5.66	100%
Texo LP 1690	7.42	100.00%	0.0%	100.0%	0.00%	0.00%	0.00017	260.400	7.42	7.42	0.33	7.88	1.44	0.00	ERR	100%
TG Silver Silkscreen Ops																
Silver Coating	36.70	9.00%	0.0%	9.0%	0.00%	0.00%	0.00045	260.400	3.30	3.30	0.39	9.29	1.70	0.00	ERR	100%
Texo LP 1690	7.42	100.00%	0.0%	100.0%	0.00%	0.00%	0.00018	260.400	7.42	7.42	0.35	8.35	1.52	0.00	ERR	100%
<i>Subtotal</i>											2.01	48.31	8.82	0.00		
TG PVC Encapsulations Ops (Booths 1-6)																
Adhesive A-1100-B/Catalyst A1167-B	7.19	85.30%	0.0%	85.3%	0.0%	10.25%	0.00100	330.000	6.13	6.13	2.02	48.57	8.86	0.00	59.83	100%
<i>Subtotal</i>											2.02	48.57	8.86	0.00		

Diatomaceous Earth Ops (1-3)																
Isopropyl Alcohol/Water	7.97	100.00%	82.6%	17.4%	79.0%	0.00%	0.03958	200.000	6.60	1.39	10.99	263.77	48.14	0.00	ERR	100%
<i>Subtotal</i>											10.99	263.77	48.14	0.00		

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

HAP Emission Calculations

Appx. A, Page 3 of 4

Company Name: Guardian Industries Corporation
Address City IN Zip: 860 West U.S. 6, Lingonier, IN 46767
CP: 113-12574-00024
Reviewer: PR/EVP
Date: August 2, 2000

Material	Density (Lb/Gal)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Weight % Toluene	Weight % MEK	Weight % MIBK	Weight % Methyl Methacrylate	Weight % Glycol Ethers	Weight % Napthalene	Weight % Methanol	Weight % Xylene	Weight % Polycyclic Organic Matter
LW Black Silkscreen Ops												
24-8169 Black	24.31	0.00230	200.000									
Texo LP 1690	7.42	0.00018	200.000						9.00%			91.00%
LW Silver Silkscreen Ops												
Silver Coating	36.70	0.00059	51.700									
Silver Coating	36.70	0.00059	51.700									
Texo LP 1690	7.42	0.00018	51.700						9.00%			91.00%
LW Dowanol Application												
Downaol (R) TPM	8.05	0.00046	200.000									
TG Black Silkscreen Ops												
24-8169 Black	24.31	0.00120	260.400									
Texo LP 1690	7.42	0.00017	260.400						9.00%			91.00%
TG Silver Silkscreen Ops												
Silver Coating	36.70	0.00045	260.400									
Texo LP 1690	7.42	0.00018	260.400						9.00%			91.00%
TG PVC Encapsulations Ops (Booths 1-6)												
Adhesive A-1100-B/Catalyst A1167-B	7.19	0.00100	330.000	25.71%	54.05%		0.95%	1.67%				
LW Diatomaceous Earth Ops (1-3)												
Isopropyl Alcohol/Water	7.19	0.00100	330.000									

Material	Toluene Emissions (ton/yr)	MEK Emissions (ton/yr)	MIBK Emissions (ton/yr)	Methyl Methacrylate Emissions (ton/yr)	Glycol Ethers Emissions (ton/yr)	Napthalene Emissions (ton/yr)	Methanol Emissions (ton/yr)	Xylene Emissions (ton/yr)	Polycyclic Organic Matter Emissions (ton/yr)
LW Black Silkscreen Ops									
24-8169 Black	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Texo LP 1690	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	1.06
LW Silver Silkscreen Ops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Silver Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Silver Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Texo LP 1690	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.28
LW Dowanol Application	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Downaol (R) TPM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Subtotal</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.13</i>	<i>0.00</i>	<i>0.00</i>	<i>1.34</i>
TG Black Silkscreen Ops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24-8169 Black	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Texo LP 1690	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	1.31
TG Silver Silkscreen Ops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Silver Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Texo LP 1690	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	1.39
<i>Subtotal</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.27</i>	<i>0.00</i>	<i>0.00</i>	<i>2.70</i>
TG PVC Encapsulations Ops (Booths 1-6)									
Adhesive A-1100-B/Catalyst A1167-B	2.67	5.62	0.00	0.10	0.17	0.00	0.00	0.00	0.00
<i>Subtotal</i>	<i>2.67</i>	<i>5.62</i>	<i>0.00</i>	<i>0.10</i>	<i>0.17</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
LW Diatomaceous Earth Ops (1-3)									
Isopropyl Alcohol/Water	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Subtotal</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Page 4 of 4 TSD App A

Company Name: Guardian Industries Corporation
Address City IN Zip: 860 West U.S. 6, Lingonier, IN 46767
CP: 113-12574-00024
Reviewer: PR/EVP
Date: August 2, 2000

Gallons of Coating Used per Hour

Material	MSOP 113-9047	SPR 113-12574	Difference in Usage
LW Black Silkscreen Ops			
24-8169 Black	0.347	0.46	0.113
Texo LP 1690	0.027	0.036	0.009
LW Silver Silkscreen Ops			
Silver Coating	0.118	0.031	-0.087
Silver Coating	0.118	0.031	-0.087
Texo LP 1690	0.009	0.009	0
LW Dowanol Application			
Downaol (R) TPM	0.32	0.092	-0.228
TG Black Silkscreen Ops			
24-8169 Black	0.156	0.312	0.156
Texo LP 1690	0.022	0.044	0.022
TG Silver Silkscreen Ops			
Silver Coating	0.299	0.117	-0.182
Texo LP 1690	0.009	0.047	0.038
TG Polyurethane RIM Ops			
Glass Primer 15964	0.135	0	-0.135
24-8169 Black	0.081	0	-0.081
Mold Release	0.495	0	-0.495
TG PVC Encapsulations Ops (Booths 1-6)			
Adhesive A-1100-B/Catalyst A1167-B	0.33	0.33	0
Methy Isobutyl Ketone	0.33	0	-0.33
TG PVC Encapsulations Ops (Booths 1-6)			
Adhesive A-1100-B/Catalyst A1167-B	0	0.33	0.33